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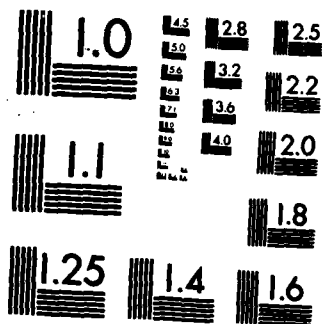
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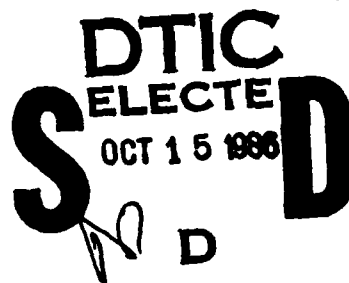
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Final Report

7th International Symposium on Plant Lipids

Davis, CA, July 27-31, 1986

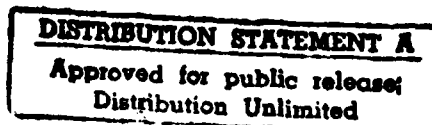
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The 7th International Symposium of Structure and Function of Plant Lipids was held on the Davis Campus of the University of California, July 27-July 31, 1986. Approximately 150 delegates registered, 99 poster presentations were made and 38 plenary lectures each 45 minutes in duration were given. Enclosed is a copy of the program. Six late posters were added after the Abstract Book was published.

Unique to the program was the Wednesday evening session which featured three speakers, Ronald Sampson from Queensland, Australia discussing the role of the federal government, industry and academia, K.C. Oo describing the function of a federally chartered research institute responsible for the development of an agronomic crop, namely the oil palm, and Rolf Schmid describing the role of industry in the development of biotechnology.

The second unique session was entitled "The Future-Genetics, Biotechnology." In this session, the Program Committee wanted to describe the role the plant breeder, the tissue culture expert, the geneticist and finally the molecular biologist could and should play in the future development of the field of plant lipids.

In terms of content, while no new dramatic developments have occurred in this field, much consolidation in both techniques and biochemistry has occurred. In particular, the report by Professor Phinney (USA) on Gibberellin biosynthesis and the future application of molecular biology to this problem, the report of Professor Schultz (W. Germany) on the compartmentation of terpenoid biosynthesis in the leaf cell, the interesting work of Professor Benveniste (France) on a group of high energy analog inhibitors of a group of enzymes involved in sterol biosynthesis were noteworthy. Professor Vigh (Hungary) described



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a new approach to the study of the role of polyunsaturated fatty acids in membrane systems. By employing a water soluble catalyst-Pd (QS)<sub>2</sub> and molecular hydrogen he was able to reduce selectively double bond systems in the acyl components of membrane lipids without modifying enzyme activities. Thus by altering the membrane fluidity of the membrane lipids chemically, he was then able to determine this effect on physiological functions. Professor Huang (USA) described much progress on how oil droplets were formed in the developing oil seed and in the future will apply the techniques of molecular biology in fully understanding the biogenesis of oil droplets in the commercially important seeds such as soybean and rape seed. Professor Roughan (New Zealand) gave an excellent account of the development of the procaryotic and eucaryotic pathways in so-called 16:3 plants and 18:3 plants and as a result one can now predict the contributions of each pathway in the final makeup of the lipids of the leaf cell. Professor Douce (France) described in great detail the techniques developed in his laboratory to the isolation of plant organelles in the leaf cell as well as the component parts of those organelles. This work is essential in defining the role of each sub-compartment of the cell in the total biochemistry of the cell.

Both Professors Vick (USA) and Hatanaka (Japan) described the biochemical reactions in lipoxygenation and hydroxylation as well as cleavage reactions of polyunsaturated fatty acids in plants. These reactions are very important in terms of agronomics in that, for example, the flavors unique to the tea leaf are completely related to these biochemical reactions. Professor Stymme (Sweden) described his latest work on triglyceride biosynthesis and showed a rather

dramatic slide in which a test tube containing all the components of triglyceride biosynthesis was transparent at zero time and after an interval the solution became very turbid due to the formation of triglycerides. Finally in the 9th session, Professor Downey (Canada) described the development of canola, the zero erucic rape seed. Professor Jones (G.B.) discussed the development of the cloning techniques whereby cells from tissue cultures obtained from elite oil palms were induced to form plantlets and finally were planted in the field. So-called clonal oil palms looked very promising but recently it was observed that the physiology of flower development (both male and female) were altered rather drastically in a significant number of clonal oil palms. The significance of this development will be of great importance in the future development of this technique not only for the clonal oil palm but also for other clonal derived plants. Professor Sommerville (USA) described his most interesting employment of mutants of Arabidopsis in analysing the role of plant lipids in membrane systems.

Finally Professor Ohlrogger (USA) described his recent work on the chemical synthesis of the acyl carrier protein gene and its use as a probe to analyze its role in fatty acid synthesis in plants.

The entire proceedings will be published by Plenum Publishers in 1987.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The 7th International Symposium on Plant Lipids was held on the Davis Campus of the University of California July 27-August 1, 1986. About 155 scientists attended. Forty plenary lectures and 140 posters were presented. The topics were as follows: {1} Biochemistry of Isoprenoids and Sterols, {2} Functions of Isoprenoids and Sterols, {3} Structure & Function of Lipids, {4} Biosynthesis of Complex Lipids, {5} Oxygen-requiring Systems - Oxygenases and Desaturases, {6} Medium & Long Chain Biosynthesis, {7} Interaction of Federal, Industrial & Academic Research, {8} Algal Lipids, and {9} The Future - Genetics & Biotech-		

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